PERMIT APPLICATION: NRS05.180

APPLICANT: Harpeth Valley Utilities District
P. O. Box 210319
Nashville, Tennessee 37221-0319
615-352-7076

LOCATION: Trace Creek beginning near Sneed Road and extending northward to just south of State Route 100, in Williamson and Davidson Counties; Lat 36.0317°N, Lon 86.9557°W

WATERSHED DESCRIPTION: Waterbody segment ID TN05130204009_0900 (Trace Creek) is located in Davidson, Williamson county. This segment is impaired due to pollutant or pollutants exceeding water quality standards. The general source of pollutant that exceeds water quality standards within this waterbody is identified as land development. For this segment of Trace Creek 4.9 miles are identified as not supporting designated uses. This stream is Category 4A. The stream is impaired, but EPA has approved a siltation/ habitat alteration TMDL for the known pollutants.

Trace Creek in this segment a second order, perennial flow stream. The affected segment of stream channel is located within relative flat topography. The channel is not deeply incised.

PROJECT DESCRIPTION: The proposed work involves construction of a trench that follows the creek channel for installation of a gravity sewer pipe. The purpose is to replace an existing 15-inch sewer line with a new 24-inch diameter line. The existing sewer was constructed over 30 years ago utilizing concrete pipe. The sewer has exceeded its design life, is showing structural deterioration, and experiences surcharges during wet weather.

The trench would be constructed parallel to and near Trace Creek and would begin near Sneed Road and extend northward approximately seven thousand feet, terminating just south of Tennessee State Route 100. The alignment of the new pipeline would generally be constructed adjacent to the alignment of the existing pipeline. The new alignment is proposed to cross the creek five times along its pathway.

ALTERNATIVES: The applicant reports that several alternatives were considered for the replacement of the old system. The alternatives included a pump station and force main, alternate locations of the proposed trunk sewer, and the chosen alternative of constructing a parallel sewer and abandoning the existing sewer in place.

The applicant reports that since the existing system provides gravity service to a large area, construction of a pump station was not feasible and that due to the existing development, there is no viable site for a pump station.

The applicant reports that both sides of Trace Creek were surveyed in an attempt to best locate the new sewer alignment and minimize the number of stream crossings. After determining the parallel sewer was the best scenario, consideration was given to replacing the sewer in the existing trench. This option was not chosen by the applicant due to the necessity to leave the existing pipe in service while installing the new pipe. To do this would require pump around pumping of the sewage to construct the project. The applicant cites the following reasons why this is not practicable:

1. possible failure of the pumping system and discharge of raw sewage to the creek
2. increased trench width required for the new pipe would require blasting or hoe-ramming to remove rock

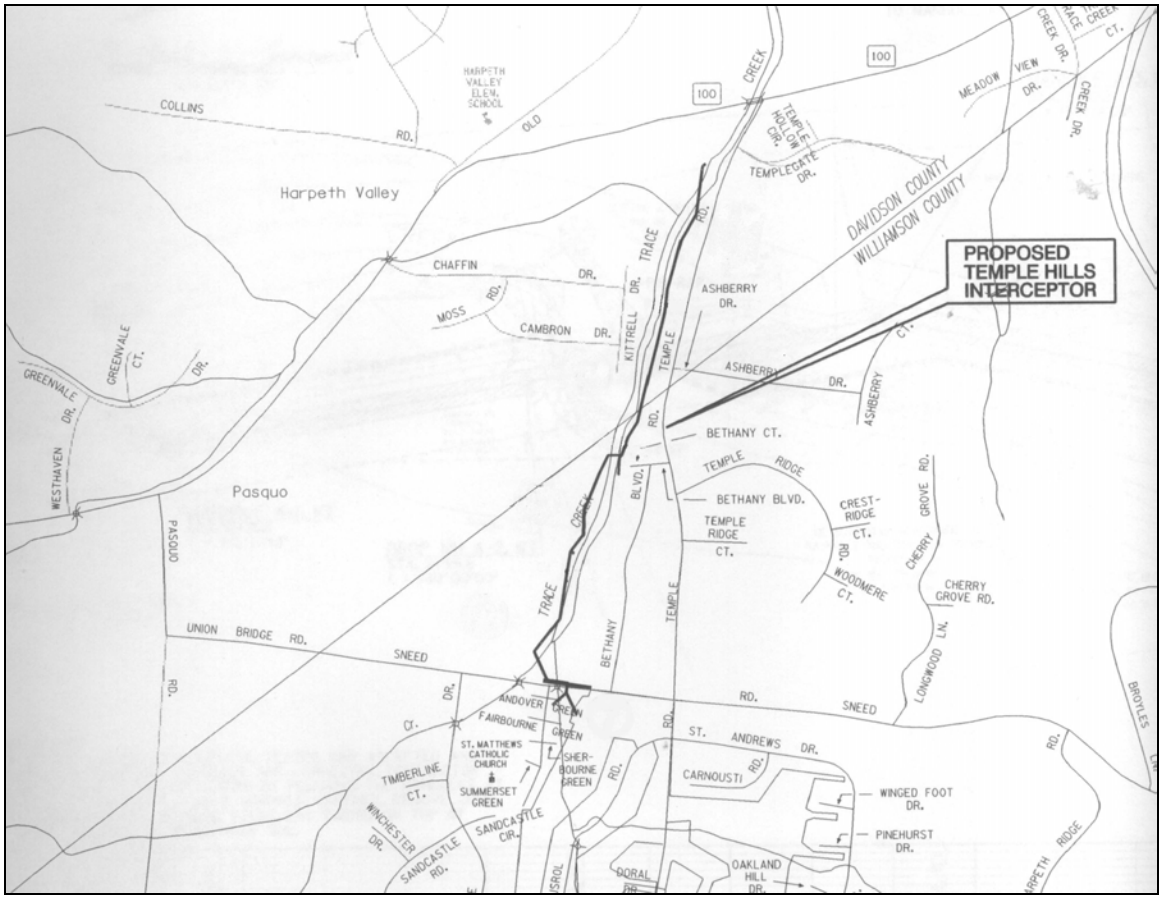
3. longer construction time would increase disruption to the service area and increase difficulty in maintaining existing sewer services

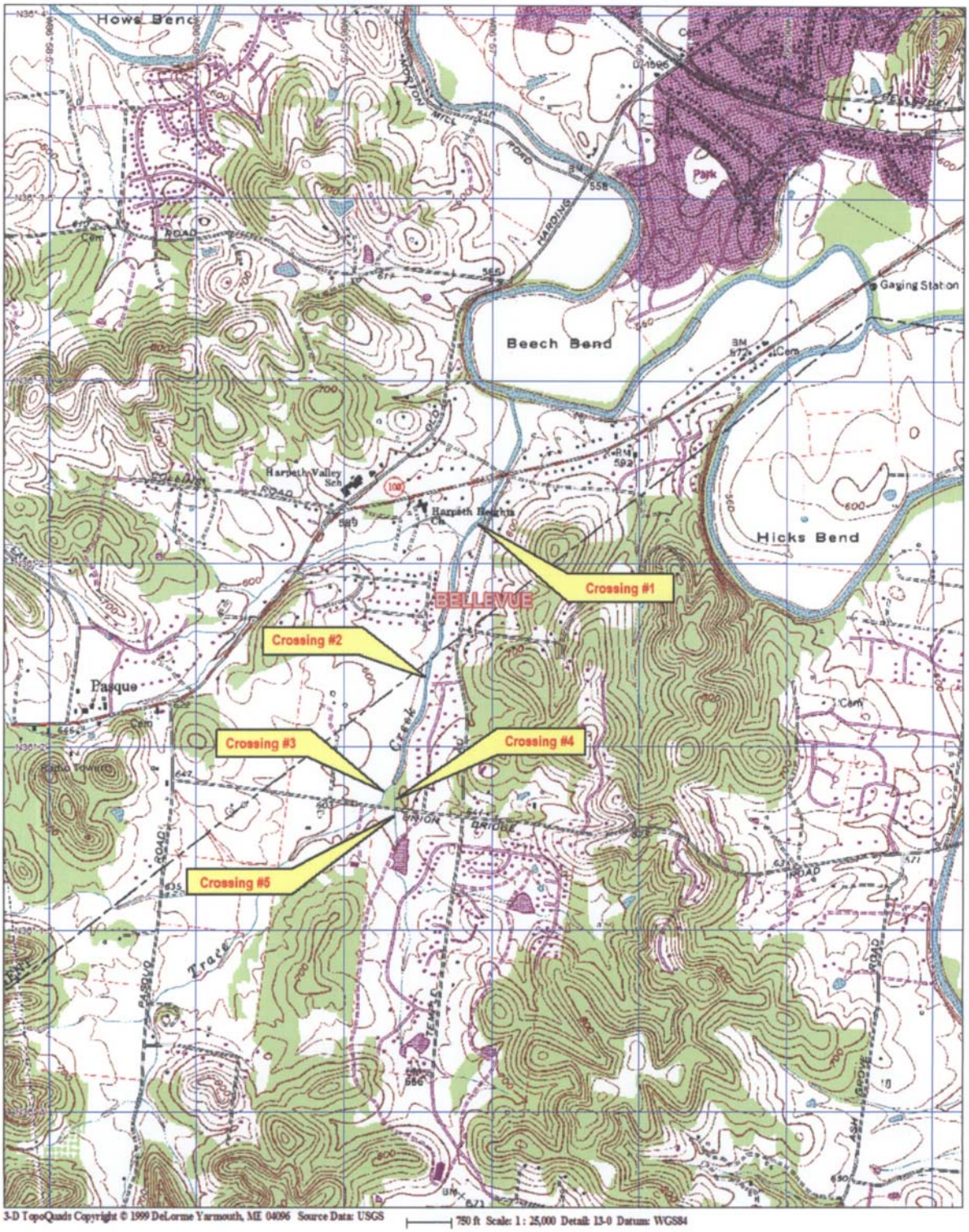
SPECIAL CONDITIONS: To help prevent the capture of stream flow into the trench at the stream crossings, the applicant has proposed to place flowable fill as bedding and backfill in the trench at the stream crossings between the concrete check dams located in the trench on either side of the stream.

Also, the applicant has proposed to place monitoring wells within the trench on either side of crossings one and two to monitor any potential capture of stream flow into the trench.

PERMIT COORDINATOR: Robert Baker

USGS TOPOGRAPHIC QUADRANGLE: USGS Bellevue Quad




Howe Bend
Beech Bend
Hicks Bend
Gaging Station
Park
Cem
ROAD
Harpeth Valley Sch
Harpeth Heights Ch
BELLEVUE
Crossing #1
Crossing #2
Crossing #3
Crossing #4
Crossing #5
Pasque
Creek
UNION
ORIOLE
Trace
TEMP
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
750 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

Trace Creek Crossing #1




Trace Creek Crossing #2